

## CLAIMS

What is claimed is:

- 5           1.       A bicycle saddle/seat with an electronically powered vibrating/oscillating  
mechanism comprised of:

a digital programmable seat control bar activates,

10           a power source to drive vibratory/oscillating motor mechanism within,

a vibratory/oscillating tube integrated within a concave integrated molded  
tube tunnel affixed to or running within the underside seat plastic front to  
back the length of the bicycle seat; wherein

15           upon rider activation of the tube vibrating/oscillating mechanism within  
and by virtue of it's affixation/integration within plastic underside of the  
seat having contact at points appropriate with the metal rod infrastructure  
on the underside of all bicycle seats, thus the entire seat vibrates/oscillates  
20           upon activation.

2. The vibrating/oscillating mechanism within the tube, tube tunnel and one with the seat of claim 1 wherein said power supply also within the tube comprises a ni-cad rechargeable battery, solar recharging or bicycle motion recharging.
- 5 3. The vibrating/oscillating seat of claim 1 wherein said ni-cad recharging may be done with the vibratory/oscillatory tube locked in the seat tunnel or snapped out and may be recharged remotely away from the seat. On occasion the oscillating tube with ni-cad rechargeable batteries may be replaced when battery no longer accepts recharging.
- 10 4. The vibrating/oscillating seat of claim 1 wherein Vibrating/oscillating motor within tube/seat vibrates at frequencies of 1100 to 18000 Rpm's/strokes per minute.
- 15 5. The vibrating/oscillating seat of claim 1 wherein programmable digital controls activate vibration Rpm's/frequency, amplitude, duty cycle and wavelength of vibrations which strokes per minute are vertical to or horizontal with the saddle surface upon which rider sits.
- 20 6. The vibrating/oscillating seat of claim 1 wherein Programmable/digital controls allow automatic activation of preselected vibration/oscillation periods of one-half minute to 3 minutes each and at 15 to 30 minute intervals more or less of three plus hours of operation.

7. The vibrating/oscillating seat of claim 1 wherein programmable controls allows automatic activation and deactivation based on seat sensor/ body weight bearing or simple on/off digital activation of frequency and wave length of vibrations.

8. The vibrating/oscillating seat of claim 1 wherein two motor approaches either pizo electric motion or electric motor with eccentric offset weight.

9. The vibrating/oscillating seat in claim 1 wherein controlling as necessary to have sufficient battery power and/or, a buffering, redirecting, isolation or nodulized mechanism may be integrated when necessary to minimize the principle of “energy goes to the lower mass” ie., energy going to lighter bicycle frame as it relates to the heavier rider as it is to be directed.

10. The vibrating/oscillating seat in claim 1 wherein may be integrated into bicycle saddles present or future comprised of various materials plastic, composites, gel, foam, leather, neoprene or spring supported as currently configured and characterized in type of saddles including: standard, anatomically correct, gender specific, racing, recumbent and comfort; for bicycle types including: Hybrid, Touring, Mountain, Comfort, Tandem, Racing, Juvenile, Standard and Recumbent.

11. The vibrating/oscillating seat in claim 1 wherein Recumbent bike saddles are larger, chair like with wide seat bottoms and seat backs. Either oscillating tube concept as above or roller wheel with tracks. Rollers may roll, knead, percuss, or operate in a compression manner replicating acceptable massage actions.

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12. The vibrating/oscillating seat of claim 1 wherein the power source is a motorcycle engine generator rather than ni-cad rechargeable battery power, so too does this invention applies to motorcycle saddles/seats with vibratory/oscillatory tube, tube tunnel functions and programmability being the same as above; tube designs varying only in outside tube and tube tunnel's shape, dimensions and vibratory/oscillatory strokes per minute as needed. As envisioned design differences are for optimal operation, function and comfort of saddles that are generally larger than bicycle saddles/seats. Dual/Tri/Quad tubes/tunnels and tracks per seat may be required in the case of motorcycles.

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13. The vibrating/oscillating seat of claim 1 wherein it applies to motorcycle seats/saddles, the oscillating/vibrating/rolling/cancellation functions applies to back rests found on driver and passenger seats/saddles

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14. The vibrating/oscillating seat of claim 1 wherein to make saddles most comfortable, with functionality available to riders as desired above, on motorcycles having too much vibration/oscillation at the saddle, incorporate an electronic/mechanism that buffers or isolates saddle from motorcycle frame and or

motor, electronically timed to the engines Rpm's so as to cancel out and smooth-out vibration in a controlled manner thus allowing vibration to come through to the saddle when wanted. Vibration may come through electronic mechanism to saddle for similar periods of, one-half to three minutes of vibration at intervals of  
5 every 15 to 30 minutes as the bicycle saddle above

15. The vibrating/oscillating seat of claim 1 wherein For motorcycle seats and larger bicycle seats such as recumbent bike saddles, Dual/Tri/Quad track or tracks may replace tube and tube tunnel above running on the underside front to back or  
10 circular rotation a sitting haunches area of saddle, enabling wheel or ball 1/8<sup>th</sup> inch to 4 inches in diameter by 1/4<sup>th</sup> inch to four inches wide, to rotate full track length back and forth or circularly, powered by appropriate small state of art motor commonly available in the art. Said track is on underside of seat coverings for both bicycle and motorcycles and rotates/channels through tracking through foam,  
15 gel, and/or springs on underside of seat covering.

16. The vibrating/oscillating seat of claim 1 wherein Wheel/ball track and tracking, alternatively to oscillation/vibration tube and channels only, allows multi-speed massage functions of kneading rolling, percussion and compression  
20 used to optimize comfort for both bicycle and motorcycle saddles.

17. The vibrating/oscillating seat claim 1 wherein Heating and /or cooling elements, alternatively or in addition to above may be integrated on underside of

bicycle or motorcycle saddles and channeled through foam, gel springs, front to back of saddle adjacent to saddle covering to conduct heat or cooling effects for facilitating massage and comfort.

5        18.     The vibrating/oscillating seat claim 1 wherein seat oscillation in combination with a nodulized mechanism integrated at seat/seat post or Seat oscillation in combination with integrated mechanical or electrical shock absorber and/or shock absorber integrated within or without the bicycle seat post.

10       19.     The vibrating/oscillating seat claim 1 wherein electrode integration into bicycle or motorcycle seat allowing for the conduction of electrical current via EMS electric muscle stimulation.